National Institute of Standards and Technology
Gaithersburg, MD 20899

National Type Evaluation Program

Certificate of Conformance

for Weighing and Measuring Devices

For:

Load Cell
Column Compression
Models: 50K-SCA, 100K-SCA, and 120K-SCA
n_{max}: 10 000
Capacity: 50 000 to 120 000 lb

Accuracy Class: III L

Submitted by:

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Standard Features and Options

Model	Capacity (lb)	V_{min} (lb)	Minimum Dead Load (lb)
50K-SCA	50 000	3	500
100K-SCA	100 000	6	1000
120K-SCA	120 000	6	1000

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: February 5, 1996

Chief, Office of Weights and Measures
Issue Date: March 22, 1996

Cardinal Scale Manufacturing Co.
Column Compression Load Cell
Models: 50K-SCA, 100K-SCA, and 120K-SCA

Application: The load cells may be used in Class III L scales for multiple cell applications consistent with the model designations and parameters specified in this certificate. Load cells of a given accuracy class may be used in applications with lower accuracy class requirements provided the number of scale divisions, the v_{min} values, and temperature range are suitable for the application.

Test Conditions: This Certificate supersedes Certificate of Conformance (CC) Number 89-042A2 and is issued to include a new version of the SCA series load cell. Two 50 000-lb capacity load cells of the new design were tested at NIST using dead weights as the reference standard. The data were analyzed for multiple load cell applications. The cells were tested over a temperature range of -10 °C to 40 °C. Three tests were run on each cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure. Previous test conditions are listed below for reference.

Certificate of Conformance 89-042A2: This Certificate supersedes Certificate of Conformance (CC) Number 89-042A1 and is issued to add the Model 120K-SCA load cell. The load cell is added without formal testing based upon information supplied by the manufacturer.

Certificate of Conformance 89-042A1: This Certificate supersedes Certificate of Conformance (CC) Number 89-042 (dated December 20, 1989) and reflects new values for v_{min} based upon the change to Handbook 44 performance requirements for the temperature effect on zero effective January 1, 1991.

Two 50 000-lb capacity load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for multiple load cell applications. The cells were tested over a temperature range of -10 °C to 40 °C. Three tests were run on each cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure.

Type Evaluation Criteria Used: NIST Handbook 44, 1996 Edition

Tested By: NIST Force Group, NIST Office of Weights and Measures

Information Reviewed By: C. V. Cotsoradis (NIST)